

### **REMARKS**

The present application relates to hybrid maize plant and seed 39K40. Applicant respectfully requests consideration of the following remarks.

#### **Detailed Action**

##### ***A. Status of the Application.***

Applicant acknowledges the objection to the specification for containing blank lines in place of ATCC accession numbers on page 7 is withdrawn. Applicant further acknowledges the objection to claims 1, 5, and 7 are withdrawn in light of the claim amendments. The rejection of claims 1-32 under the judicially created doctrine of obviousness-type double patenting is acknowledged as withdrawn. Applicant further acknowledges the rejections of claims 1-32 under 35 U.S.C. §102(e)/103(a) are withdrawn.

##### ***B. Claims and Specification***

Applicant acknowledges the addition of 41-61, placed in the format suggested by the claims faxed by Supervisory Patent Examiner Amy Nelson on August 2, 2002 and again on November 15, 2002 by Examiner David Fox. The new claims do not add new matter as there is literal support for the claims in the originally filed specification (pages 29-42, specification). Finally, Applicant submits that the Deposits section has been amended in order to properly include both the hybrid maize plant 39K40 and the inbred parents GE535658 and GE516223 within the deposit paragraph on page 37 of the specification. The changes do not add new matter as there is literal support for the minor changes on page 7 in the originally filed specification. The specification has now been amended to correct these minor changes.

#### **Rejections Under 35 U.S.C. § 112, Second Paragraph**

Claims 6, 8, 11, 15, 19, 21, 28, and 32 remain rejected and claims 33, 34, and 38-40 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicant regards as the invention, for the reasons of record stated in the Office Action mailed August 7, 2002.

Claims 11, 15, 19, 24, 28, and 32 remain indefinite as the Examiner states the specification does not teach the traits within Tables 1-4 can be described in the manner in the

claims. The Examiner further states the specification does not define the separation from "very high" and "very good."

Applicant has cancelled claims 11, 15, 19, 24, 28, and 32, thus alleviating this rejection. Applicant further acknowledges the addition of new claims 41-61, placed in the format suggested by the claims faxed by Supervisory Patent Examiner Amy Nelson on August 2, 2002 and again on November 15, 2002 by Examiner David Fox as aforementioned. The new claims do not add new matter as there is support for the claims in the originally filed specification (pages 29-42, specification).

The Examiner rejects claim 6 for improper antecedent basis for the phrase "protoplasts" in line 1.

Applicant has now amended claim 5 to read --a tissue culture of regenerable cells or protoplasts--, thereby alleviating the rejection of claim 6.

Claims 8 and 21 remain indefinite for the recitation "genetic factor conferring" stating that the language renders the claim indefinite. The Examiner states it is not clear if the claim is directed towards detasseled plants, or plants that have been transformed with a gene conferring male sterility.

Applicant respectfully traverses this rejection. Applicant submits support can be found on 13 of the specification, wherein it states "[i]t should be understood that the inbred can, through routine manipulation of cytoplasmic or other factors, be produced in male-sterile form. Such embodiments are also contemplated within the scope of the present claims." Further, the specification states "hybrid maize seed is typically produced by a male sterility system incorporated manual of mechanical detasseling" (page 2, specification). In addition, the "detasseling process can be avoided by using cytoplasmic male-sterile inbreds" (page 2, specification). As taught in the specification, there are several methods of conferring male sterility. Therefore, Applicant asserts that one skilled in the art would not find the terminology indefinite. Claim 8 has been amended to claim "maize" plant. Claim 21 has now been cancelled, alleviating this rejection.

The Examiner rejects claims 11, 14, 19, 24, 28, 32, 38, and 39 for the recitation of "has derived at least 50% of its alleles" in claims 11, 15, 19, 24, 28, and 32, and "deriving at least 50% of its alleles" in claims 38 and 39 which render the claim indefinite. The Examiner states it is not clear what is meant by "derived" and "deriving".

Applicant has canceled claims 11, 15, 19, 24, 28, 32, 38, and 39, thus alleviating this rejection.

The Examiner rejects claim 33 for the recitation "a hybrid maize plant" in line 4 renders the claim indefinite. The Examiner states the claim does not clearly indicate that the hybrid maize plant in the recitation is the same as 39K40, mentioned in line 1.

Applicant has now amended the claim to replace "a" with --said--, as suggested by the Examiner, thereby alleviating this rejection.

Claim 34 stands rejected for the recitation "essentially" in line 3 which renders the claim indefinite. The Examiner continues by stating that the recitation makes the metes and bounds of the claim unclear.

Applicant has canceled claim 34, thus alleviating this rejection.

Claim 38 stands rejected for the recitation "on average, deriving at least 50%" in line 2 that renders the claim indefinite.

Applicant has now cancelled claim 38, alleviating this rejection.

The Examiner rejects claim 39 for the recitation "A 39K40 maize plant selected from the population of 39K40 progeny maize plants" rendering the claim indefinite. The Examiner states the claim is drawn to plant 39K40, yet can comprise less than 100% of the alleles of 39K40.

Applicant has cancelled claim 39, thus alleviating this rejection.

Claim 40 stands rejected as indefinite for the recitation "further comprising applying double haploid methods".

Applicant has now cancelled claim 40, thereby alleviating this rejection.

In light of the above amendments and remarks, Applicant respectfully requests reconsideration and withdrawal of the rejections under 35 U.S.C. § 112, second paragraph.

#### **Rejections Under 35 U.S.C. § 112, First Paragraph**

Claims 11-19 and 24-32 remain rejected and claims 9, 10, 22, 23, 34-40 stand rejected under 35 U.S.C. § 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the art that the inventor(s), at the time the application was filed, had possession of the claimed invention, for the reasons of record stated in the Office Action mailed August 7, 2002. The Examiner states that the deposit of seed of plant 39K40 does not provide a description of the plants that are

encompassed by the rejected claims, which have not been deposited. The Examiner also states that no description of any trait is provided concerning the other parents of the claimed plants or of the 50% of the alleles of the claimed plants which will be inherited from the other parent. The Examiner suggests that claims 12 and 25 be amended by listing the type of transgenes that may be introduced. Finally the Examiner concludes that the specification does not describe any traits of any inbred plants or any progeny plants produced from 39K40, nor does it mention any double haploid method.

Applicant acknowledges the written description rejection to claims 8 and 21 as withdrawn. Applicant has now cancelled claims 9-19, 21-32 and 34-40, thus alleviating this rejection. Applicant has added new claims 41-61, placed in the format as aforementioned. Applicant believes the new claims come within the purview of the written description requirement and do not add new matter.

Applicant respectfully asserts the following regarding double haploid breeding. The specification discusses multiple breeding techniques that may be used according to the invention. The specification at page 3 states "[p]lant breeding techniques known in the art and used in a maize plant breeding program include, but are not limited to, recurrent selection backcrossing, pedigree breeding, restriction length polymorphism enhanced selection, genetic marker enhanced selection and transformation" (page 3, specification). Double haploid breeding is a technique long known and used in the art of plant breeding. Applicant is attaching herewith Wan *et al.*, "Efficient Production of Doubled Haploid Plants Through Colchicine Treatment of Anther-Derived Maize Callus", *Theoretical and Applied Genetics*, 77:889-892, 1989. This demonstrates that haploid breeding is a long known technique in the art of plant breeding and supports Applicant's assertion that producing double haploids is well known to one ordinarily skilled in the art. It is axiomatic in patent law that a specification need not include, and preferably omits, what is well known in the art. See *In re Myers*, 161 U.S.P.Q. 668 (CCPA 1969). Double haploids are produced by the doubling of a set of chromosomes (1N) from a heterozygous plant to produce a completely homozygous individual. This is advantageous because the process can eliminate the generations of selfing needed to obtain a homozygous plant from a heterozygous source. Therefore, Applicant respectfully submits that the new claims 46 and 54 comply with 35 U.S.C. § 112, first paragraph.

Claim 33 stands rejected under 35 U.S.C. § 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention, for the reasons of record stated in the Office Action mailed August 7, 2002 for claims 1-32. Applicant's arguments have been fully considered and found persuasive for claims 1-32. The Examiner states the claim is drawn towards a method of making a hybrid plant designated 39K40 comprising crossing inbred maize plant GE535658 and GE516223. The Examiner states that claim 33 recites the deposit numbers for the two inbred maize plants and states the terms of the deposits are not known.

Applicant respectfully traverses this rejection. Applicant has now amended the DEPOSITS section on page 42 to further include the inbred parents GE535658 and GE516223. The Applicant provides assurance that:

- a) during the pendency of this application access to the invention will be afforded to the Commissioner upon request;
- b) all restrictions upon availability to the public will be irrevocably removed upon granting of the patent;
- c) the deposit will be maintained in a public depository for a period of thirty years, or five years after the last request for the enforceable life of the patent, whichever is longer;
- d) a test of the viability of the biological material at the time of deposit will be conducted (see 37 C.F.R. § 1.807); and
- e) the deposit will be replaced if it should ever become inviable.

In view of this assurance, the rejection under 35 U.S.C. § 112, first paragraph, should be removed. (MPEP § 2411.02) Such action is respectfully requested.

In light of the above amendments and remarks, Applicant respectfully requests reconsideration and withdrawal of the rejections under 35 U.S.C. § 112, first paragraph.

Applicant acknowledges that claims 1-5, 7 and 20 are allowed.

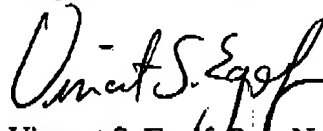
**Conclusion**

In conclusion, Applicant submits in light of the above amendments and remarks, the claims as amended are in a condition for allowance, and reconsideration is respectfully requested.

No additional fees or extensions of time are believed to be due in connection with this amendment; however, consider this a request for any extension inadvertently omitted, and charge any additional fees to Deposit Account No. 26-0084.

Reconsideration and allowance is respectfully requested.

Respectfully submitted,



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